

L Number	Hits	Search Text	DB	Time stamp
-	9915	(determin\$5 or measur\$5 or calculat\$3) with volume with liquid	USPAT	2004/09/29 17:57
-	165690	chromogen or (chromophor\$3 adj indicator) or dye	USPAT	2004/09/29 17:21
-	83	((determin\$5 or measur\$5 or calculat\$3) with volume with liquid) same	USPAT	2004/09/29 16:26
-	41672	(chromogen or (chromophor\$3 adj indicator) or dye)		
-		measur\$5 with (absorption or absorbance)	USPAT	2004/09/29 17:21
-	8	((determin\$5 or measur\$5 or calculat\$3) with volume with liquid) same	USPAT	2004/09/29 17:46
-		(chromogen or (chromophor\$3 adj indicator) or dye)) same (measur\$5		
-		with (absorption or absorbance))		
-	1	("5298978").PN.	USPAT	2004/09/29 16:36
-	11	((("6339472") or ("6320662") or ("6188476") or ("5963318") or	USPAT	2004/09/29 17:16
-		("5959738") or ("5766875") or ("5492673") or ("5298978") or		
-		("5258308") or ("5244813") or ("4354376")).PN.		
-	19124	complex with ligand	USPAT	2004/09/29 17:22
-	2	(complex with ligand) and (((determin\$5 or measur\$5 or calculat\$3)	USPAT	2004/09/29 17:17
-		with volume with liquid) same (chromogen or (chromophor\$3 adj		
-		indicator) or dye))		
-	249	(complex with ligand) and ((determin\$5 or measur\$5 or calculat\$3) with	USPAT	2004/09/29 17:18
-		volume with liquid)		
-	699	(complex with ligand) same (chromogen or (chromophor\$3 adj	USPAT	2004/09/29 17:18
-		indicator) or dye)		
-	9	((complex with ligand) and ((determin\$5 or measur\$5 or calculat\$3)	USPAT	2004/09/29 17:18
-		with volume with liquid)) and ((complex with ligand) same (chromogen		
-		or (chromophor\$3 adj indicator) or dye))		
-	5967	(determin\$5 or measur\$5 or calculat\$3) with volume with liquid	US-PGPUB;	2004/09/29 17:21
-			EPO; JPO;	
-			DERWENT	
-	225038	chromogen or (chromophor\$3 adj indicator) or dye	US-PGPUB;	2004/09/29 17:21
-			EPO; JPO;	
-			DERWENT	
-	27995	measur\$5 with (absorption or absorbance)	US-PGPUB;	2004/09/29 17:21
-			EPO; JPO;	
-			DERWENT	
-	20293	complex with ligand	US-PGPUB;	2004/09/29 17:22
-			EPO; JPO;	
-			DERWENT	
-	12	((determin\$5 or measur\$5 or calculat\$3) with volume with liquid) and	US-PGPUB;	2004/09/29 17:23
-		(chromogen or (chromophor\$3 adj indicator) or dye) and (complex with	EPO; JPO;	
-		ligand)) and (measur\$5 with (absorption or absorbance))	DERWENT	
-	56	((determin\$5 or measur\$5 or calculat\$3) with volume with liquid) and	US-PGPUB;	2004/09/29 17:25
-		(chromogen or (chromophor\$3 adj indicator) or dye) and (complex with	EPO; JPO;	
-		ligand)	DERWENT	
-	18	((determin\$5 or measur\$5 or calculat\$3) with volume with liquid) and	US-PGPUB;	2004/09/29 17:37
-		(measur\$5 with (absorption or absorbance)) and (complex with ligand)	EPO; JPO;	
-			DERWENT	
-	2	ep-431578-\$.did.	US-PGPUB;	2004/09/29 17:39
-			EPO; JPO;	
-			DERWENT	
-	8	((("5125747") or ("5092677") or ("4805623") or ("4354376") or	USPAT	2004/09/29 17:44
-		("4128339") or ("3920580") or ("3869211") or ("3737237")).PN.		
-	279	ferrozine or bathophenanthroline or bathocuproine or chromazurol	USPAT	2004/09/29 18:01
-	2	(ferrozine or bathophenanthroline or bathocuproine or chromazurol) and	USPAT	2004/09/29 17:44
-		((determin\$5 or measur\$5 or calculat\$3) with volume with liquid)		
-	4175	calibration with (pipette or volume)	USPAT	2004/09/29 17:46
-	0	(ferrozine or bathophenanthroline or bathocuproine or chromazurol) and	USPAT	2004/09/29 17:46
-		(calibration with (pipette or volume))		
-	93626	calibration	USPAT	2004/09/29 17:47
-	42	(ferrozine or bathophenanthroline or bathocuproine or chromazurol) and	USPAT	2004/09/29 17:47
-		calibration		
-	131704	(determin\$5 or measur\$5 or calculat\$3) with volume	USPAT	2004/09/29 17:57
-	53	(ferrozine or bathophenanthroline or bathocuproine or chromazurol) and	USPAT	2004/09/29 17:57
-		((determin\$5 or measur\$5 or calculat\$3) with volume )		

-	286	ferrozine or bathophenanthroline or bathocuproine or chromazurol	US-PGPUB; EPO; JPO; DERWENT	2004/09/29 18:01
-	2	((determin\$5 or measur\$5 or calculat\$3) with volume with liquid) and (ferrozine or bathophenanthroline or bathocuproine or chromazurol)	US-PGPUB; EPO; JPO; DERWENT	2004/09/30 08:50

=> s ferrozine/cn  
L1 1 FERROZINE/CN

=> d 11

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN  
RN 69898-45-9 REGISTRY  
CN Benzenesulfonic acid, 4,4'-[3-(2-pyridinyl)-1,2,4-triazine-5,6-diyl]bis-,  
monosodium salt (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Ferrozine

CN **FerroZine**

MF C20 H14 N4 O6 S2 . Na

LC STN Files: AGRICOLA, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CAPLUS,  
CHEMCATS, CHEMLIST, CSCHEM, EMBASE, MSDS-OHS, TOXCENTER, USPAT2,  
USPATFULL

(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Conference; Journal; Patent; Report

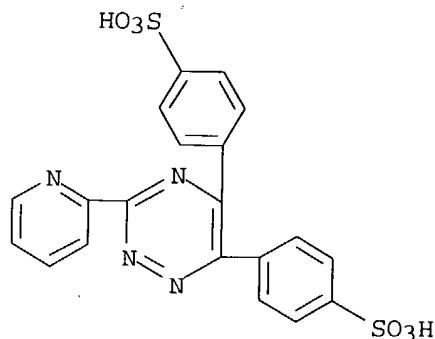
RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);  
PROC (Process); USES (Uses)

RLD.P Roles for non-specific derivatives from patents: ANST (Analytical  
study); BIOL (Biological study); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological  
study); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC  
(Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical  
study); PREP (Preparation); PRP (Properties); USES (Uses)

CRN (32796-55-7)



● Na

142 REFERENCES IN FILE CA (1907 TO DATE)

8 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

143 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> s chromazurol/cn  
L2 0 CHROMAZUROL/CN

=> s chromazurol s/cn  
L3 0 CHROMAZUROL S/CN

=> file caplus

COST IN U.S. DOLLARS

FULL ESTIMATED COST

SINCE FILE	TOTAL
ENTRY	SESSION
15.90	16.11

FILE 'CAPLUS' ENTERED AT 14:42:39 ON 30 SEP 2004  
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FILE COVERS 1907 - 30 Sep 2004 VOL 141 ISS 14  
FILE LAST UPDATED: 29 Sep 2004 (20040929/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s (determin? or calculat? or measur?) (s) (volume) (s) liquid  
772756 DETERMIN?  
580555 DET  
36001 DETS  
613705 DET  
(DET OR DETS)  
1917505 DETD  
312019 DETG  
1455007 DETN  
129051 DETNS  
1530438 DETN  
(DETN OR DETNS)  
3822778 DETERMIN?  
(DETERMIN? OR DET OR DETD OR DETG OR DETN)  
166324 CALCULAT?  
127184 CALC  
6096 CALCS  
132675 CALC  
(CALC OR CALCS)  
823505 CALCD  
11 CALCDS  
823511 CALCD  
(CALCD OR CALCDS)  
81882 CALCG  
1 CALCGS  
81882 CALCG  
(CALCG OR CALCGS)  
415468 CALCN  
451124 CALCNS  
763687 CALCN  
(CALCN OR CALCNS)  
1545699 CALCULAT?  
(CALCULAT? OR CALC OR CALCD OR CALCG OR CALCN)  
2636375 MEASUR?  
91203 VOLUME  
14172 VOLUMES  
99435 VOLUME  
(VOLUME OR VOLUMES)  
651475 VOL  
81747 VOLS  
701223 VOL  
(VOL OR VOLS)  
749723 VOLUME  
(VOLUME OR VOL)

661224 LIQUID  
120447 LIQUIDS  
752385 LIQUID  
(LIQUID OR LIQUIDS)

914402 LIQ  
87256 LIQS  
948287 LIQ

(LIQ OR LIQS)

1319821 LIQUID

(LIQUID OR LIQ)

L4 6583 (DETERMIN? OR CALCULAT? OR MEASUR?) (S) (VOLUME) (S) LIQUID

=> s measur? (s) absorbance

2636375 MEASUR?

71748 ABSORBANCE

5064 ABSORBANCES

75207 ABSORBANCE

(ABSORBANCE OR ABSORBANCES)

L5 27754 MEASUR? (S) ABSORBANCE

=> s indicator (s) ligand

136594 INDICATOR

65750 INDICATORS

181981 INDICATOR

(INDICATOR OR INDICATORS)

265220 LIGAND

179814 LIGANDS

361906 LIGAND

(LIGAND OR LIGANDS)

L6 389 INDICATOR (S) LIGAND

=> s complex (p) ligand (p) indicator

1158109 COMPLEX

666569 COMPLEXES

1428587 COMPLEX

(COMPLEX OR COMPLEXES)

265220 LIGAND

179814 LIGANDS

361906 LIGAND

(LIGAND OR LIGANDS)

136594 INDICATOR

65750 INDICATORS

181981 INDICATOR

(INDICATOR OR INDICATORS)

L7 424 COMPLEX (P) LIGAND (P) INDICATOR

=> d his

(FILE 'HOME' ENTERED AT 14:41:32 ON 30 SEP 2004)

FILE 'REGISTRY' ENTERED AT 14:41:40 ON 30 SEP 2004

L1 1 S FERROZINE/CN

L2 0 S CHROMAZUROL/CN

L3 0 S CHROMAZUROL S/CN

FILE 'CAPLUS' ENTERED AT 14:42:39 ON 30 SEP 2004

L4 6583 S (DETERMIN? OR CALCULAT? OR MEASUR?) (S) (VOLUME) (S) LIQUID

L5 27754 S MEASUR? (S) ABSORBANCE

L6 389 S INDICATOR (S) LIGAND

L7 424 S COMPLEX (P) LIGAND (P) INDICATOR

=> s l4 and l5 and l6

L8 0 L4 AND L5 AND L6

=> s l4 and l5 and l7

L9 0 L4 AND L5 AND L7

=> s l4 and l6

L10 1 L4 AND L6

=> d 110

L10 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:384745 CAPLUS  
TI Method and device for **determining the volume** of a  
sample of a **liquid**  
IN Haelg, Werner; Ingenhoven, Nikolaus; Troesch, Michael  
PA Tecan Trading Ag, Switz.  
SO PCT Int. Appl.  
CODEN: PIXXD2  
DT Patent  
LA German  
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002040161	A1	20020523	WO 2001-CH638	20011029
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2001095360	A5	20020527	AU 2001-95360	20011029
	AU 2001095361	A5	20020527	AU 2001-95361	20011029
	AU 2001095363	A5	20020527	AU 2001-95363	20011029
	EP 1221341	A1	20020710	EP 2001-125832	20011030
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	AU 2002012040	A5	20020527	AU 2002-12040	20011115
	JP 2002228587	A2	20020814	JP 2001-350178	20011115
	EP 1333925	A1	20030813	EP 2001-980114	20011115
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004512951	T2	20040430	JP 2002-542522	20011115
PRAI	CH 2000-2252	A	20001117		
	CH 2000-2281	A	20001123		
	CH 2000-2314	A	20001129		
	WO 2001-CH637	W	20011029		
	WO 2001-CH638	W	20011029		
	WO 2001-CH640	W	20011029		
	WO 2001-CH672	W	20011115		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 14 and 17

L11 0 L4 AND L7

=> s measur? (s)(absorbance or absorption)

2636375 MEASUR?

71748 ABSORBANCE

5064 ABSORBANCES

75207 ABSORBANCE

(ABSORBANCE OR ABSORBANCES)

850634 ABSORPTION

12352 ABSORPTIONS

856028 ABSORPTION

(ABSORPTION OR ABSORPTIONS)

L12 114401 MEASUR? (S)(ABSORBANCE OR ABSORPTION)

=> d his

(FILE 'HOME' ENTERED AT 14:41:32 ON 30 SEP 2004)

FILE 'REGISTRY' ENTERED AT 14:41:40 ON 30 SEP 2004

L1 1 S FERROZINE/CN  
L2 0 S CHROMAZUROL/CN  
L3 0 S CHROMAZUROL S/CN

FILE 'CAPLUS' ENTERED AT 14:42:39 ON 30 SEP 2004

L4 6583 S (DETERMIN? OR CALCULAT? OR MEASUR?) (S) (VOLUME) (S) LIQUID  
L5 27754 S MEASUR? (S) ABSORBANCE  
L6 389 S INDICATOR (S) LIGAND  
L7 424 S COMPLEX (P) LIGAND (P) INDICATOR  
L8 0 S L4 AND L5 AND L6  
L9 0 S L4 AND L5 AND L7  
L10 1 S L4 AND L6  
L11 0 S L4 AND L7  
L12 114401 S MEASUR? (S) (ABSORBANCE OR ABSORPTION)

=> s l4 and l12

L13 132 L4 AND L12

=> s l13 and l6

L14 1 L13 AND L6

=> s l13 and l7

L15 0 L13 AND L7

=> s l1 or bathophenanthroline or bathocuproine or chromazurol s

143 L1  
839 BATHOPHENANTHROLINE  
1 BATHOPHENANTHROLINES  
839 BATHOPHENANTHROLINE  
(BATHOPHENANTHROLINE OR BATHOPHENANTHROLINES)  
506 BATHOCUPROINE  
387 CHROMAZUROL  
2 CHROMAZUROLS  
387 CHROMAZUROL  
(CHROMAZUROL OR CHROMAZUROLS)

2597206 S  
354 CHROMAZUROL S  
(CHROMAZUROL(W)S)

L16 1784 L1 OR BATHOPHENANTHROLINE OR BATHOCUPROINE OR CHROMAZUROL S

=> s l16 and l4

L17 0 L16 AND L4

=> s (determin? or calculat? or measur?) (s) (volume)

772756 DETERMIN?  
580555 DET  
36001 DETS  
613705 DET  
(DET OR DETS)

1917505 DETD  
312019 DETG  
1455007 DETN  
129051 DETNS  
1530438 DETN  
(DETN OR DETNS)

3822778 DETERMIN?  
(DETERMIN? OR DET OR DETD OR DETG OR DETN)

166324 CALCULAT?  
127184 CALC  
6096 CALCS  
132675 CALC  
(CALC OR CALCS)

823505 CALCD  
11 CALCDS  
823511 CALCD  
(CALCD OR CALCDS)

81882 CALCG  
1 CALCGS  
81882 CALCG  
(CALCG OR CALCGS)  
415468 CALCN  
451124 CALCNS  
763687 CALCN  
(CALCN OR CALCNS)  
1545699 CALCULAT?  
(CALCULAT? OR CALC OR CALCD OR CALCG OR CALCN)  
2636375 MEASUR?  
91203 VOLUME  
14172 VOLUMES  
99435 VOLUME  
(VOLUME OR VOLUMES)  
651475 VOL  
81747 VOLS  
701223 VOL  
(VOL OR VOLS)  
749723 VOLUME  
(VOLUME OR VOL)  
L18 117636 (DETERMIN? OR CALCULAT? OR MEASUR?) (S) (VOLUME)

=> d his

(FILE 'HOME' ENTERED AT 14:41:32 ON 30 SEP 2004)

FILE 'REGISTRY' ENTERED AT 14:41:40 ON 30 SEP 2004

L1 1 S FERROZINE/CN  
L2 0 S CHROMAZUROL/CN  
L3 0 S CHROMAZUROL S/CN

FILE 'CAPLUS' ENTERED AT 14:42:39 ON 30 SEP 2004

L4 6583 S (DETERMIN? OR CALCULAT? OR MEASUR?) (S) (VOLUME) (S) LIQUID  
L5 27754 S MEASUR? (S) ABSORBANCE  
L6 389 S INDICATOR (S) LIGAND  
L7 424 S COMPLEX (P) LIGAND (P) INDICATOR  
L8 0 S L4 AND L5 AND L6  
L9 0 S L4 AND L5 AND L7  
L10 1 S L4 AND L6  
L11 0 S L4 AND L7  
L12 114401 S MEASUR? (S) (ABSORBANCE OR ABSORPTION)  
L13 132 S L4 AND L12  
L14 1 S L13 AND L6  
L15 0 S L13 AND L7  
L16 1784 S L1 OR BATHOPHENANTHROLINE OR BATHOCUPROINE OR CHROMAZUROL S  
L17 0 S L16 AND L4  
L18 117636 S (DETERMIN? OR CALCULAT? OR MEASUR?) (S) (VOLUME)

=> l 19 and l16

<-----User Break----->

=> s l18 and l16

L19 24 L18 AND L16

=> d l19 ibib,kwic

L19 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:930564 CAPLUS

DOCUMENT NUMBER: 136:123151

TITLE: Study for aluminum-**Chromazurol S**  
complex by reverse phase high performance liquid  
chromatography

AUTHOR(S): Nyuuta, Kazuyuki; Niiya, Wataru; Okutani, Tadao;  
Sakuragawa, Akio

CORPORATE SOURCE: Fac. Sci. Eng., Nihon Univ., Japan

SOURCE: Kogyo Yosui (2001), 517, 13-18  
CODEN: KOYOAW; ISSN: 0454-1545



PUBLISHER: Nippon Kogyo Yosui Kyokai  
DOCUMENT TYPE: Journal  
LANGUAGE: Japanese

- TI Study for aluminum-**Chromazurol S** complex by reverse phase high performance liquid chromatography
- AB Trace amt. of Al was **detd.** in water by addn. of 0.5 mL phthalic acid buffer (pH 5.4) and 0.5 mL 0.0004 M **Chromazurol S** (CAS) to a sample contg. <0.35 .mu.g Al; and addn. of 0.5 mL 0.002 M cetyltrimethylammonium chloride (CTMAC) and pure water 0.5 mL, followed by reverse HPLC using Wakosil-II C18RS sepn. column and 53 vol.% acetonitrile soln (pH 5.4) contg. 0.0004 M CTMAC and 0.005 M KH phthalate as a mobile phase at a flow rate of 1 mL/min with UV detection at 545 nm. The calibration graph was linear for <0.35 .mu.g Al/5 mL with 3.2% error. The method was applied to the detn. of Al in drinking water, river water, and groundwater, and dissoln. of Al from cooking app. Constitution of Al-CAS complex and sepn. mechanism are descried.
- ST water analysis aluminum detn reverse phase HPLC **Chromazurol S**
- IT Drinking waters  
Groundwaters  
HPLC  
River waters  
(detn. of trace Al in water by reverse phase HPLC using Al-**Chromazurol S** complex)
- IT 7732-18-5, Water, analysis  
RL: AMX (Analytical matrix); ANST (Analytical study)  
(detn. of trace Al in water by reverse phase HPLC using Al-**Chromazurol S** complex)
- IT 7429-90-5, Aluminum, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(detn. of trace Al in water by reverse phase HPLC using Al-**Chromazurol S** complex)
- IT 1667-99-8  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(detn. of trace Al in water by reverse phase HPLC using Al-**Chromazurol S** complex)
- IT 75-05-8, Acetonitrile, analysis 877-24-7, Potassium hydrogen phthalate  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(detn. of trace Al in water by reverse phase HPLC using Al-**Chromazurol S** complex)
- IT 112-02-7, Cetyltrimethylammonium chloride  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(surfactant; detn. of trace Al in water by reverse phase HPLC using Al-**Chromazurol S** complex)

=> d 119 ibib,kwic 2

L19 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:141229 CAPLUS

DOCUMENT NUMBER: 132:283635

TITLE: The ferrozine method revisited: Fe(II)/Fe(III) determination in natural waters

AUTHOR(S): Viollier, E.; Inglett, P. W.; Hunter, K.; Roychoudhury, A. N.; Van Cappellen, P.

CORPORATE SOURCE: Georgia Institute of Technology, School of Earth and Atmospheric Sciences, Atlanta, GA, 30332-0340, USA

SOURCE: Applied Geochemistry (2000), 15(6), 785-790

CODEN: APPGEY; ISSN: 0883-2927

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

- AB The original ferrozine method has been modified to sequentially **det.** the Fe(II)/Fe(III) speciation in small **vols.** of fresh and marine water samples, at the submicromolar level. Spectrophotometric analyses of the Fe(II)-ferrozine complex are performed

on a single aliquot before and after a redn. step with hydroxylamine. The procedure is calibrated using Fe(III) stds. stable under normal conditions of anal. It is shown also that the presence of high concns. of dissolved NOM (natural org. matter) do not create any significant artifacts. The method was used to measure Fe(II) and Fe(III) depth distribution in salt marsh pore waters and in a stratified marine basin.

IT 7803-49-8, Hydroxylamine, uses 69898-45-9, Ferrozine  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(detn. of Fe(II)/Fe(III) in natural waters using ferrozine method)

=> d 119 ibib,kwic 3

L19 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:479678 CAPLUS  
DOCUMENT NUMBER: 131:124628  
TITLE: Determination of copper in serum and subsurface waters  
using spectrophotometry and the internal standard  
method  
AUTHOR(S): Colunqa Urbina, Edith Madai; Jimenez, Gustavo Cruz;  
Wrobel, Katarzyna; Wrobel, Kazimierz  
CORPORATE SOURCE: Fac. Quim., Univ. Coahuila, Ccoahuila, Mex.  
SOURCE: Congreso Iberoamericano de Quimica Inorganica,  
Proceedings, 7th, Monterrey, Mex., Apr. 25-30, 1999  
(1999), 345-350. Academia Mexicana de Quimica  
Inorganica: Mexico City, Mex.  
CODEN: 67WGAF  
DOCUMENT TYPE: Conference  
LANGUAGE: Spanish  
REFERENCE COUNT: 7

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB The known limitation of sepn./preconcn. procedures is the increasing risk  
of anal. errors. Such source of errors can be controlled using a method  
of internal std. (IS), which is common in chromatog. and in some  
spectrometric techniques. Recently, IS was also applied in  
spectrophotometry UV/visible and the improved anal. performance was  
achieved both for many-fold diln. and for preconcn. procedures.  
Bromophenol blue was used as IS in the extn.-spectrophotometric detn. of  
Cu with **bathocuproine** disulfonate in serum and in ground H2O.  
The ratio between the absorbances measured at 477 nm (Cu complex) and at  
602 nm (IS) was taken as the anal. signal. In serum anal., after extn. to  
CHCl3 (150 .mu.L), Cu was **detd.** directly in the org. phase  
(sample **vol.** 300 .mu.L, calibration range 0-2 mg l-1, DL 0.03 mg  
l-1, CV for 0.5 mg l-1 Cu 2.2%, n = 6), while for water anal. the org.  
phase was evapd. and the obtained residue was dissolved in a micro  
**vol.** (150 .mu.L) of CH2Cl2 (sample **vol.** 10 mL,  
calibration range 0-40 .mu.g l-1, DL 0.4 .mu.g l-1, CV for 8.0 .mu.g l-1  
Cu 4.8%, n = 6). The anal. performances of the two procedures were  
significantly improved as compared with the parameters obtained without  
IS.

=> d 119 ibib,kwic 4

L19 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:235978 CAPLUS  
DOCUMENT NUMBER: 130:360676  
TITLE: Application of internal standard for micro  
extraction-spectrophotometric determination of copper  
in serum and in natural waters  
AUTHOR(S): Wrobel, Kazimierz; Wrobel, Katarzyna; Cruz-Jimenez,  
Gustavo; Angulo-Romero, Fabiola  
CORPORATE SOURCE: Instituto de Investigaciones Cientificas, Universidad  
de Guanajuato, Guanajuato, 36000, Mex.  
SOURCE: Analytica Chimica Acta (1999), 387(2), 217-224  
CODEN: ACACAM; ISSN: 0003-2670  
PUBLISHER: Elsevier Science B.V.  
DOCUMENT TYPE: Journal

LANGUAGE: English  
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB The known limitation of sepn./preconcn. procedures is the increasing risk of anal. errors. Such source of errors can be controlled by using a method of internal std. (IS), which is common in chromatog. and in some spectrometric techniques. Recently, IS was also applied in spectrophotometry UV/visible and the improved anal. performance was achieved both for many-fold diln. and for preconcn. procedures. Bromophenol blue was used as IS in the extn.-spectrophotometric detn. of Cu with **bathocuproine** disulfonate in serum and in ground H<sub>2</sub>O. The ratio between the absorbances measured at 477 (Cu complex) and at 602 nm (IS) was taken as the anal. signal. In serum anal., after extn. to CHCl<sub>3</sub> (150 .mu.L), Cu was **detd.** directly in the org. phase (sample **vol.** 300 .mu.L, calibration range 0-2 mg L<sup>-1</sup>, DL 0.03 mg L<sup>-1</sup>, CV for 0.5 mg L<sup>-1</sup> Cu 2.2%, n = 6), while for water anal. the org. phase was evapd. and the obtained residue was dissolved in a micro **vol.** (150 .mu.L) of CH<sub>2</sub>Cl<sub>2</sub> (sample **vol.** 10 mL, calibration 0-40 .mu.g L<sup>-1</sup>, DL 0.4 .mu.g L<sup>-1</sup>, CV for 8.0 .mu.g L<sup>-1</sup> Cu 4.8%, n = 6). The anal. performances of the two procedures were significantly improved as compared with the parameters obtained without IS.

=> d 119 ibib,kwic 5

L19 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:188059 CAPLUS

DOCUMENT NUMBER: 130:257030

TITLE: Flow injection continuous liquid-liquid extraction using a hollow fiber membrane separator for determination of copper in water

AUTHOR(S): Richter, Pablo; Toral, M. Ines; Manriquez, Roberto

CORPORATE SOURCE: Department of Chemistry, Faculty of Sciences, University of Chile, Santiago, Chile

SOURCE: Analytical Letters (1999), 32(3), 601-612

CODEN: ANALBP; ISSN: 0003-2719

PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB A simple flow injection photometric method for the detn. of copper was developed based on the formation and liq.-liq. extn. of the analyte-**bathocuproine**-perchlorate ternary complex. The anal. reaction of complex formation is integrated with the continuous liq.-liq. extn. procedure. A hollow fiber-type membrane separator was specially constructed for the detn. The anal. properties like sensitivity, precision, accuracy and rapidity were evaluated. The sensitivity of the method depends on the injection vol. By using an injection **vol.** of 0.6 mL, the detection limit (3.sigma.) found was 15 ng mL<sup>-1</sup> copper, with a **detn.** range of 48 - 3000 ng/mL. The repeatability of the method, expressed as the relative std. deviation, was in all instances less than 3.0%. The sampling rate was of 20 h<sup>-1</sup>. The accuracy of the method was tested with certified ref. materials, and the mean error was calcd. to be less than 5%. The method was successfully applied to the detn. of copper in river water.

=> d 119 ibib,kwic 6

L19 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:70468 CAPLUS

DOCUMENT NUMBER: 130:158134

TITLE: Organic solvent-soluble membrane filters for the preconcentration and spectrophotometric determination of iron(II) traces in water with ferrozine

AUTHOR(S): Chen, Ying; Ding, Chang-Ming; Zhou, Tian-Ze; Qi,

CORPORATE SOURCE: Da-Yong  
 Department Chemistry, Capital Normal University,  
 Beijing, 100037, Peop. Rep. China  
 SOURCE: Fresenius' Journal of Analytical Chemistry (1999),  
 363(1), 119-120  
 CODEN: FJACES; ISSN: 0937-0633  
 PUBLISHER: Springer-Verlag  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB An org. solvent-sol. membrane filter (MF) is presented for the simple and  
 rapid preconcn. with subsequent spectrophotometric detn. of trace levels  
 of Fe<sup>2+</sup> in water. Iron(II) is collected on a nitrocellulose membrane  
 filter as ion assoc. of an anionic complex, which is formed by Fe<sup>2+</sup> and  
 Ferrozine and a cationic surfactant (cetylpyridinium bromide). The  
 ion-pair compd. and the MF can be dissolved in small vols. of  
 2-ethoxyethanol and the absorbance of the resulting soln. is  
**measured** at 560 nm against a reagent blank with molar absorptivity  
 of 4.01 .times. 10<sup>4</sup> L mol<sup>-1</sup> cm<sup>-1</sup>. Beer's law is obeyed over the concn.  
 range 0-10 .mu.g L<sup>-1</sup> of Fe<sup>2+</sup> in water and the detection limit is 0.03  
 .mu.g L<sup>-1</sup> with a 50-fold enrichment factor. The proposed method was  
 applied to the detn. of Fe<sup>2+</sup> in natural water and sea water.  
 IT 140-72-7, Cetylpyridinium bromide 151-41-7 **69898-45-9**,  
 Ferrozine  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (org. solvent-sol. nitrocellulose membrane filters for preconcn. and  
 spectrophotometric detn. of iron(II) traces in water as ion assoc. of  
 Fe<sup>2+</sup>, Ferrozine, and cetylpyridinium)

=> d 119 ibib,kwic 7

L19 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:431749 CAPLUS  
 DOCUMENT NUMBER: 125:81239  
 TITLE: Urinalysis test strips  
 INVENTOR(S): Lehmann, Juergen  
 PATENT ASSIGNEE(S): Germany  
 SOURCE: Ger. Offen., 3 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4444533	A1	19960627	DE 1994-4444533	19941214
DE 4444533	C2	19970612		
DE 19623747	A1	19971218	DE 1996-19623747	19960614
			DE 1994-4444533	19941214

PRIORITY APPLN. INFO.: DE 1994-4444533 19941214

AB Test strips are described for **detg.** urinary components such as  
 electrolytes in which a test field of defined **vol.** in the test  
 strip is treated with a color indicator and a buffer. Strips are claimed  
 for detn. of pH, creatinine, magnesium, calcium, HPO<sub>4</sub><sup>2-</sup>, Fe<sup>2+</sup>, potassium,  
 sodium, and chloride.  
 IT 64-02-8, Komplexon 76-59-5, Bromthymol blue 88-89-1, Picric acid  
 493-52-7, Methyl red 596-27-0, o-Cresolphthalein 11098-84-3, Ammonium  
 molybdate 11115-67-6, Ammonium vanadate 14936-97-1, Xylidyl blue  
**69898-45-9**, Ferrozine  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (urinalysis test strips)

=> d 119 ibib,kwic 8

L19 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1989:540091 CAPLUS  
 DOCUMENT NUMBER: 111:140091  
 TITLE: Selective and sensitive spectrophotometric determination of copper in water after collection of its **Bathocuproine** complex on an organic-solvent-soluble membrane filter  
 AUTHOR(S): Kasahara, Issei; Ogawa, Tetsuji; Hata, Noriko; Taguchi, Shigeru; Goto, Katsumi; Ohta, Masaaki; Ohzeki, Kunio  
 CORPORATE SOURCE: Fac. Sci., Toyama Univ., Toyama, 930, Japan  
 SOURCE: Water Research (1989), 23(7), 933-6  
 CODEN: WATRAG; ISSN: 0043-1354  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 TI Selective and sensitive spectrophotometric determination of copper in water after collection of its **Bathocuproine** complex on an organic-solvent-soluble membrane filter  
 AB A rapid and simple preconcn. technique which can be used in place of solvent extn., was applied to the spectrophotometric detn. of Cu in water. Cu(II) is reduced to Cu(I) by NH<sub>2</sub>OH.HCl and complexed with **Bathocuproine**. The **Bathocuproine** complex is collected on a nitrocellulose membrane filter. The membrane filter and the complex are dissolved in a small vol. of 2-methoxyethanol and the absorbance due to the complex in the solvent is **measured** at 477 nm. It is less tedious than the conventional solvent extn. method and can be used by inexperienced workers. Enrichment factors of .apprx.100 can easily be attained, so that microgram per L levels of Sn in water can be detd. precisely without using expensive app. such as a furnace at. absorption spectrometer. The detection limit is 0.12 .mu.g in 500 mL sample on a 3 times the std. deviation of the blank basis.  
 ST copper detn water spectrophotometry; **Bathocuproine** copper complex water analysis; nitrocellulose copper complex water analysis  
 IT 7732-18-5, Water, analysis  
 RL: AMX (Analytical matrix); ANST (Analytical study)  
 (copper detn. in, by spectrophotometry, copper-**Bathocuproine** complex in)  
 IT 7440-50-8, Copper, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (detn. of, in water, by spectrophotometry, copper-**Bathocuproine** complex in)

=> d 119 ibib,kwic 9

L19 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN  
 ACCESSION NUMBER: 1987:561177 CAPLUS  
 DOCUMENT NUMBER: 107:161177  
 TITLE: A flow injection analysis of iron in marine sediments  
 AUTHOR(S): Yuan, Youxian  
 CORPORATE SOURCE: Yellow Sea Fish. Res. Inst., Chinese Acad. Fish. Sci., Qingdao, Peop. Rep. China  
 SOURCE: Haiyang Yu Huzhao (1987), 18(2), 156-61  
 CODEN: HYHCAG; ISSN: 0029-814X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: Chinese  
 AB A flow injection anal. using the Fe(II)-**bathophenanthroline** -Triton X-100 system was developed and applied to the detn. of Fe in marine sediments. The method is simple and selective. One hundred **detns.** can be run in an hour, and 50 .mu.L of sample **vol** . is required for each **detn.** The linear range for calibration curve and detection limit are 0.5-4.0 and 0.02 ppm Fe, resp. The coeff. of variation for 3.0 ppm Fe soln. is 2.0%.  
 IT Geological sediments  
 (marine, iron detn. in, by flow injection anal. of **bathophenanthroline**-Triton x-ion complex)  
 IT 1662-01-7, **Bathophenanthroline** 9002-93-1, Triton X-100  
 RL: OCCU (Occurrence)  
 (reagent, in flow injection detn. of iron in marine sediments)

=> d 119 ibib,kwic 10

L19 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1982:519677 CAPLUS

DOCUMENT NUMBER: 97:119677

TITLE: Determination of microamounts of cyanide. Part I.  
Indirect spectrophotometric determination of  
microamounts of cyanide with the copper-  
**Chromazurol S**-cetylpyridinium  
chloride complex

AUTHOR(S): Zhu, Youyu; Qi, Wenbin

CORPORATE SOURCE: Dep. Chem., Hanzhou Univ., Hanzhou, Peop. Rep. China

SOURCE: Fenxi Huaxue (1981), 9(6), 692-4

CODEN: FHHHDT; ISSN: 0253-3820

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

TI Determination of microamounts of cyanide. Part I. Indirect  
spectrophotometric determination of microamounts of cyanide with the  
copper-**Chromazurol S**-cetylpyridinium chloride complex

AB Trace CN<sup>-</sup> in aq. solns. was detd. by an indirect spectrophotometric  
method. At pH 10, Cu(II), **Chromazurol S** (I), and  
excess cetylpyridinium chloride (II) form a stable H<sub>2</sub>O-sol. red complex  
( $\lambda_{\text{max}}$  = 530 nm and  $\epsilon_{530} = 2.5 \times 10^4$ ) which is quant.  
decompd. by CN<sup>-</sup>. Various vols. of a std. CN<sup>-</sup> soln. were  
successively added to a soln. contg. the Cu(II)-I-II complex, the decrease  
in the absorption of the solns. at 530 nm ( $\Delta A$ ) was **measured**  
, and a  $\Delta A$  vs. CCN<sup>-</sup> calibration curve was constructed. The method  
had a Sandell sensitivity of  $1.0 \times 10^{-3}$   $\mu\text{g CN}^-/\text{cm}^2$ , and Beer's  
law was obeyed for 0-0.16  $\mu\text{g CN}^-/\text{mL}$ . The concn. of CN<sup>-</sup> in the waste  
soln. from a coffee processing plant in China was detd. by the indirect  
spectrophotometric method to be 1.70 ppm vs. 1.66 ppm by the conventional  
pyridine-benzidine spectrophotometric method.

ST cyanide detn indirect spectrophotometry; copper complex reagent cyanide  
detn; **Chromazurol S** reagent cyanide detn;  
cetylpyridinium chloride reagent cyanide detn; wastewater analysis  
cyanide; water waste analysis cyanide

IT Cyanides, analysis

RL: ANT (Analyte); ANST (Analytical study)  
(detn. of, copper-**Chromazurol S**-cetylpyridinium  
chloride complex in indirect spectrophotometric)

IT 7440-50-8D, **Chromazurol S** complex, ion assoc. with  
cetylpyridinium 7773-52-6D, ion assoc. with copper-**Chromazurol**  
**S** complex

RL: ANST (Analytical study)  
(in detn. of cyanides by indirect spectrophotometry)

=> d 119 ibib,kwic 11

L19 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1981:564915 CAPLUS

DOCUMENT NUMBER: 95:164915

TITLE: A new method for the determination of serum iron:  
Potentiostatic coulometry with the Ferrochem 3050

AUTHOR(S): Doerner, K.; Gustmann, H.; Sippell, W.

CORPORATE SOURCE: Abt. Allgemeine Paediatric, Univ. Kinderklin., Kiel,  
D-2300, Fed. Rep. Ger.

SOURCE: Journal of Clinical Chemistry and Clinical  
Biochemistry (1981), 19(9), 967-70

CODEN: JCCBDT; ISSN: 0340-076X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Fe, as well as total Fe-binding capacity (TIBC), was **detd.** in  
small serum vols. ( $< 50 \mu\text{L}$ ) by potentiostatic  
coulometry with the Ferrochem 3050 analyzer. The std. curve was linear in  
the range 5-90  $\mu\text{M}$ , and the relative std. deviations ranged 4.59-6.1 and

3.7-5.9% for Fe and TIBC, resp., when 50 .mu.L serum was used. When 20 .mu.L serum was used, the precision decreased. The results of the method were compared to those obtained by the **bathophenanthroline** disulfonate method with deproteinization in blood donor and patient serums. There was better correlation of the results in patient serums than in blood donor serums due to different measurement and standardization procedures. To obtain correct results, it was necessary to check and correct the blank and std. after every 10 min, due to analyzer drift. Compds. contg. an azo group, such as salazosulfapyridine, interfered with the method, but Cu caused no interference. The method is rapid (40 samples/h) and requires only small sample vols.

=> d 119 ibib,kwic 12

L19 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1981:556210 CAPLUS

DOCUMENT NUMBER: 95:156210

TITLE: Inverse voltammetry of some copper chelates on the carbon paste electrode. Determination of copper in drinking water by oxidation of copper dithiooxamide

AUTHOR(S): Monien, H.; Gerlach, Ute; Jacob, P.

CORPORATE SOURCE: Univ.-Gesamthochsch. Siegen, Siegen, D-5900/21, Fed. Rep. Ger.

SOURCE: Fresenius' Zeitschrift fuer Analytische Chemie (1981), 306(2-3), 136-43

CODEN: ZACFAU; ISSN: 0016-1152

DOCUMENT TYPE: Journal

LANGUAGE: German

AB The exptl. oxidn. of Cu chelates of dithiooxamide [79-40-3], 2,2'-bichinoline [119-91-5], neocuproine [484-11-7], and **bathocuproine** [4733-39-5] at the C paste electrode indicate that dithiooxamide is a particularly convenient reagent for the d.c. inverse-voltammetric detn. of parts-per-billion Cu concns. in drinking waters contg. 105-fold excesses of other metals. The oxidn. of the Cu dithiooxamide chelate occurs near +0.25 V (ref. electrode: Ag/AgCl/KCl satd.) in a base electrolyte (pH 4.1) contg. an acetate buffer. A single **detn.** requires a sample **vol.** of 1-10 mL, a 3 min. pre-electrolysis, and a total anal. time of .apprx.15 min, applying the addn. technique. Relative to Cu detns. using Hg electrodes, this procedure offers the advantage of lower interference.

=> d 119 ibib,kwic 13

L19 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1980:542287 CAPLUS

DOCUMENT NUMBER: 93:142287

TITLE: Effect of 8-hydroxyquinoline and pyridine on the reaction of yttrium and lutetium with **Chromazurol S**

AUTHOR(S): Granovskaya, P. B.; Akhmedli, M. K.

CORPORATE SOURCE: Azerb. Gos. Univ., Baku, USSR

SOURCE: Azerbaidzhanskii Khimicheskii Zhurnal (1979), (5), 108-11

CODEN: AZKZAU; ISSN: 0005-2531

DOCUMENT TYPE: Journal

LANGUAGE: Russian

TI Effect of 8-hydroxyquinoline and pyridine on the reaction of yttrium and lutetium with **Chromazurol S**

AB Lu3+ was **detd.** in solns. contg. Y3+ by spectrophotometry by **measuring** the absorbance of its 1:1:2 complex with **Chromazurol S** (I) and 8-hydroxyquinoline (II) at 610 in a pH 6.3 buffer soln. mixed with 3 mL EtOH/25 mL total **vol.** The relative std. deviation was .ltoreq.3.5% for detg. 17.5-122.5 .mu.g Lu in solns. contg. 4.5-60.0 .mu.g Y. The formation of 1:1 Lu-I and Y-I complexes at pH 3-4, 1:2 Lu-I and Y-I complexes at pH 6.8-7.5, and 1:1:2 Lu-I-II, Y-I-II, Lu-I-pyridine, and Y-I-pyridine complexes was studied by

spectrophotometric methods.  
ST hydroxyquinoline reagent lutetium yttrium; pyridine reagent lutetium  
yttrium; **Chromazurol S** reagent lutetium yttrium;  
spectrophotometry lutetium detn yttrium present  
IT 7439-94-3, analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(detn. of, in solns. contg. yttrium, **Chromazurol S**  
and hydroxyquinoline in spectrometric)  
IT 110-86-1D, lutetium and yttrium mixed-ligand complexes 148-24-3D,  
lutetium and yttrium mixed-ligand complexes 3564-17-8D, lutetium and  
yttrium complexes 7439-94-3D, **Chromazurol S** and  
pyridine and quinolinol complexes 7440-65-5D, **Chromazurol**  
**S** and pyridine and quinolinol complexes  
RL: PRP (Properties)  
(spectra of)

=> d 119 ibib,kwic 14

L19 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1980:421933 CAPLUS  
DOCUMENT NUMBER: 93:21933  
TITLE: Method for **determination** of iron by the  
**bathophenanthroline** method in small  
**volumes** of blood serum  
AUTHOR(S): Dzhumaniyazova, K. R.; Gafarova, N. A.  
CORPORATE SOURCE: Nauchno-Issled. Inst. Gematol. Pereliv. Krovi Minist.  
Zdravookhr., Tashkent, USSR  
SOURCE: Laboratornoe Delo (1980), (4), 252-3  
CODEN: LABDAZ; ISSN: 0023-6748  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian  
TI Method for **determination** of iron by the  
**bathophenanthroline** method in small **volumes** of blood  
serum  
AB The proposed photometric method for the **detn.** of Fe in small  
**vol.** of blood serum (0.3 mL) is reproducible and does not require  
special app. A mix. of 0.3 mL serum, 0.4 mL H<sub>2</sub>O, and 0.5 mL 20% TCA is  
heated at 90.degree. for 15 min, cooled, centrifuged, and 0.6 mL of the  
supernatant is removed for the anal. Std. Fe soln. is prepd. by mixing  
0.15 mL soln. contg. 2 .mu.g Fe/mL, 0.2 mL H<sub>2</sub>O, and 0.25 mL TCA. To both  
solns. are added 0.1 mL 70% NH<sub>4</sub>OAc, 0.1 mL satd. hydrazine sulfate, and  
0.1 mL **bathophenanthroline** soln. The mixts. are allowed to  
remain in dark for 40 min and the absorbance is measured by using a green  
filter (500-60 nm). The method is useful in pediatrics because of the  
small vol. of blood taken.  
IT Blood analysis  
(iron detn. in, photometric, with **bathophenanthroline**)

=> d 119 ibib,kwic 15

L19 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1978:94613 CAPLUS  
DOCUMENT NUMBER: 88:94613  
TITLE: Determination of dissolved iron in sea water by  
radioisotope dilution and the chelating agent  
**bathophenanthroline**  
AUTHOR(S): Sharma, G. M.; DuBois, Henry R.  
CORPORATE SOURCE: Dep. Chem. Oceanogr., New York Ocean Sci. Lab.,  
Montauk, NY, USA  
SOURCE: Analytical Chemistry (1978), 50(3), 516-21  
CODEN: ANCHAM; ISSN: 0003-2700  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
TI Determination of dissolved iron in sea water by radioisotope dilution and  
the chelating agent **bathophenanthroline**  
AB A new radioisotope diln. method for the direct **detn.** of ionic Fe



in a small vol. of ocean water is described. Known amts. of unlabeled ferrous ions are added to the aliquots of the radioactive ferrous ions ( $^{59}\text{Fe}^{2+}$ ) and the mixts. are reacted with **bathophenanthroline** to yield  $[\text{iron}-(\text{batho})_3]^{2+}$  complex. A std. curve is constructed by plotting the percentage of batho-bound radioactivities against the amts. of unlabeled ferrous ions on logit-log paper. The concn. of Fe in an unknown sample is obtained by observing the percent radioactivity of the labeled iron bound by **bathophenanthroline** after radiodiln. by the unlabeled Fe present in a known vol. of the sample; the concn. is read from the std. curve. The interference due to  $\text{Cu}^+$  is eliminated by complexing it with neocuproine. The method is simple and suitable for routine detn. of sol. Fe on shipboard.

=> d 119 ibib,kwic 16

L19 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1977:435254 CAPLUS

DOCUMENT NUMBER: 87:35254

TITLE: Determination of iron with **bathophenanthroline** following an improved procedure for reduction of iron(III) ions

AUTHOR(S): Perry, R. D.; San Clemente, C. L.

CORPORATE SOURCE: Dep. Microbiol., Michigan State Univ., East Lansing, MI, USA

SOURCE: Analyst (Cambridge, United Kingdom) (1977), 102(1211), 114-19

CODEN: ANALAO; ISSN: 0003-2654

DOCUMENT TYPE: Journal

LANGUAGE: English

TI Determination of iron with **bathophenanthroline** following an improved procedure for reduction of iron(III) ions

AB Aq. ascorbic acid soln. (15% mass-vol.) and concd. HCl are added to Fe solns. obtained from culture media and contg. 0.5-8.0  $\mu\text{g}/100\text{ mL}$  Fe, the soln. is steam-heated 1 h, cooled, aq.  $\text{AcONa}$  soln. and 0.001M **bathophenanthroline** soln. are added, and, after 30 min, 3-methylbutan-1-ol is added, the lower phase is discarded after 8 h, and the absorbance of the alc. phase at 533 nm is measured. The concn. of Fe is detd. from a calibration graph. The improved procedure reduces .apprx.82% of Fe(III) compared with .apprx.16% in the original method, which used  $\text{HONH}_2\text{Cl}$  as reductant, did not allow time for the Fe(II)-**bathophenanthroline** complex to form or for the phases to sep., and extd. twice with 3-methylbutan-1-ol.

ST iron detn ascorbate redn; ascorbic acid iron detn;

**bathophenanthroline** iron detn ascorbate; culture medium iron detn

IT Culture media

(iron detn. in, spectrometric, **bathophenanthroline** and improved redn. in)

IT 7439-89-6, analysis

RL: ANT (Analyte); ANST (Analytical study)

(detn. of, spectrometric, **bathophenanthrolines** and improved redn. in)

=> d 119 ibib,kwic 15

L19 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1978:94613 CAPLUS

DOCUMENT NUMBER: 88:94613

TITLE: Determination of dissolved iron in sea water by radioisotope dilution and the chelating agent **bathophenanthroline**

AUTHOR(S): Sharma, G. M.; DuBois, Henry R.

CORPORATE SOURCE: Dep. Chem. Oceanogr., New York Ocean Sci. Lab., Montauk, NY, USA

SOURCE: Analytical Chemistry (1978), 50(3), 516-21

CODEN: ANCHAM; ISSN: 0003-2700

DOCUMENT TYPE: Journal  
LANGUAGE: English

TI Determination of dissolved iron in sea water by radioisotope dilution and the chelating agent **bathophenanthroline**

AB A new radioisotope diln. method for the direct detn. of ionic Fe in a small vol. of ocean water is described. Known amts. of unlabeled ferrous ions are added to the aliquots of the radioactive ferrous ions (59Fe2+) and the mixts. are reacted with **bathophenanthroline** to yield [iron-(batho)3]2+ complex. A std. curve is constructed by plotting the percentage of batho-bound radioactivities against the amts. of unlabeled ferrous ions on logit-log paper. The concn. of Fe in an unknown sample is obtained by observing the percent radioactivity of the labeled iron bound by **bathophenanthroline** after radiodiln. by the unlabeled Fe present in a known vol. of the sample; the concn. is read from the std. curve. The interference due to Cu+ is eliminated by complexing it with neocuproine. The method is simple and suitable for routine detn. of sol. Fe on shipboard.

=> d 119 ibib,kwic 16

L19 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1977:435254 CAPLUS

DOCUMENT NUMBER: 87:35254

TITLE: Determination of iron with **bathophenanthroline** following an improved procedure for reduction of iron(III) ions

AUTHOR(S): Perry, R. D.; San Clemente, C. L.

CORPORATE SOURCE: Dep. Microbiol., Michigan State Univ., East Lansing, MI, USA

SOURCE: Analyst (Cambridge, United Kingdom) (1977), 102(1211), 114-19

CODEN: ANALAO; ISSN: 0003-2654

DOCUMENT TYPE: Journal

LANGUAGE: English

TI Determination of iron with **bathophenanthroline** following an improved procedure for reduction of iron(III) ions

AB Aq. ascorbic acid soln. (15% mass-vol.) and concd. HCl are added to Fe solns. obtained from culture media and contg. 0.5-8.0 .mu.g/100 mL Fe, the soln. is steam-heated 1 h, cooled, aq. AcONa soln. and 0.001M **bathophenanthroline** soln. are added, and, after 30 min, 3-methylbutan-1-ol is added, the lower phase is discarded after 8 h, and the absorbance of the alc. phase at 533 nm is measured. The concn. of Fe is detd. from a calibration graph. The improved procedure reduces .apprx.82% of Fe(III) compared with .apprx.16% in the original method, which used HONH2Cl as reductant, did not allow time for the Fe(II)-**bathophenanthroline** complex to form or for the phases to sep., and extd. twice with 3-methylbutan-1-ol.

ST iron detn ascorbate redn; ascorbic acid iron detn;

**bathophenanthroline** iron detn ascorbate; culture medium iron detn

IT Culture media

(iron detn. in, spectrometric, **bathophenanthroline** and improved redn. in)

IT 7439-89-6, analysis

RL: ANT (Analyte); ANST (Analytical study)

(detn. of, spectrometric, **bathophenanthrolines** and improved redn. in)

=> d 119 ibib,kwic 17

L19 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1977:195886 CAPLUS

DOCUMENT NUMBER: 86:195886

TITLE: Change of the equilibrium volume of each phase by the mutual dissolution of 1-butanol and water

AUTHOR(S): Ishida, Ryoei

CORPORATE SOURCE: Fac. Sci., Hirosaki Univ., Hirosaki, Japan  
SOURCE: Science Reports of the Hirosaki University (1976),  
23(2), 96-7  
CODEN: HUSRAK; ISSN: 0367-6439  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB Equil. vols. of aq. and BuOH phases were detd. for a  
0.1M NaClO4-BuOH system as a function of initial H2O phase vol.  
The results were used to det. a vol. correction for  
extn.-photometric detns. which was applied to the Be2+-  
**Chromazurol S**-hexadecyltrimethylammonium  
bromide-H2O-BuOH system.

=> d 119 ibib,kwic 178

24 ANSWERS ARE AVAILABLE. SPECIFIED ANSWER NUMBER EXCEEDS ANSWER SET SIZE  
The answer numbers requested are not in the answer set.  
ENTER ANSWER NUMBER OR RANGE (1):18

L19 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1973:37530 CAPLUS  
DOCUMENT NUMBER: 78:37530  
TITLE: Spectrophotometric study of the reaction of  
4,4'-bis(p-carbethoxyanilino)-2,2'-diquinolyl with  
copper(I) ions  
AUTHOR(S): Gershuns, A. L.; Grineva, L. G.  
CORPORATE SOURCE: USSR  
SOURCE: Visn. Kharkiv. Univ., Khim. (1971), 73(2), 53-6  
From: Ref. Zh., Khim. 1972, Abstr. No. 9G62  
DOCUMENT TYPE: Journal  
LANGUAGE: Ukrainian

AB 4,4'-Bis(p-carbethoxyanilino)-2,2'-diquinolyl (I), which gives a more  
sensitive color reaction with Cu+ than **bathophenanthroline** and  
its other analogs, was proposed as a reagent for spectrophotometric detn.  
of Cu. To det. Cu, a soln. at pH 5.8-6.6, in the presence of  
NH2OH; was mixed with an equal vol. of 1 .times. 10-3M I in  
BuOH. After sepn. of the layers, the absorbance of the ext. was measured  
at 556 nm. Beer's law was obeyed for 2 .times. 10-6-2 .times. 10-4 g-atom  
Cu/l. The absorbance of the ext. did not change for several days. The  
Cu/I ratio in the complex is 1:2; the molar absorptivity at 556 nm  
(absorption max.) was 1.737 .times. 104. Almost all metals did not  
interfere in detn. of Cu with I.

=> d 119 ibib,kwic 19

L19 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1971:414619 CAPLUS  
DOCUMENT NUMBER: 75:14619  
TITLE: Colorimetric determination of trace amounts of iron  
and aluminum in high purity silicon tetrachloride  
AUTHOR(S): Marczenko, Zygmunt; Kasiura, Krzysztof; Mojski,  
Miroslaw  
CORPORATE SOURCE: Politech. Warsaw, Warsaw, Pol.  
SOURCE: Chemia Analityczna (Warsaw, Poland) (1971), 16(1),  
203-10  
CODEN: CANWAJ; ISSN: 0009-2223  
DOCUMENT TYPE: Journal  
LANGUAGE: Polish

AB Add 10 g SiCl4, cooled to 0.degree., to 25 ml H2O contg. 4 drops concd.  
H2SO4, heat the soln. contg. pptd. SiO2 with 8 ml concd. HF, evap. until  
white fumes appear, cool, dil. with 5 ml H2O, boil, and cool to room temp.  
Add to this soln. 0.5 ml 1% ascorbic acid, 2 ml 0.05%  
**bathophenanthroline** in EtOH, 3 drops 50% NH4OAc, adjust pH with  
concd. NH3 to 4-5, and shake with 5 ml CHCl3. Dil. the CHCl3 ext. with  
EtOH to 10 ml and det. Fe by measuring the absorbance at 533 nm with ref.  
to a blank. To det. Al, acidify the soln. after Fe extn. with  
concd. HCl to pH 1-2, evap. to a vol. of 4-5 ml, dil. with H2O

to .apprx.15 ml, add 1 ml 1% ascorbic acid, and adjust pH with NH<sub>3</sub> to .apprx.2. After 5 min add 2 ml 0.1% aq. Eriochrome cyanine (pH 2.5), 2 ml 50% NH<sub>4</sub>OAc, adjust pH to 6.1-6.2 with N NH<sub>3</sub>, dil. to 25 ml with H<sub>2</sub>O, and read the absorbance at 535 nm with ref. to a blank. The method can be used to det. Fe and Al down to 2 .times. 10-6%.

=> d 119 ibib,kwic 20

L19 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1970:117422 CAPLUS

DOCUMENT NUMBER: 72:117422

TITLE: Determination of impurities in high purity zinc. II. Spectrophotometric methods

AUTHOR(S): Rutkowski, Wladyslaw

CORPORATE SOURCE: Inst. Badan Jad., Warsaw, Pol.

SOURCE: Chemia Analityczna (Warsaw, Poland) (1969), 14(5), 1099-114

CODEN: CANWAJ; ISSN: 0009-2223

DOCUMENT TYPE: Journal

LANGUAGE: Polish

AB Dissolve 5 g Zn by heating in 15 ml 12N HCl and absorb AsH<sub>3</sub> and SbH<sub>3</sub> on a filter paper disk. Det. As from the intensity of the yellow spot on the disk. To det. Sb decomp. the disk with 0.25 ml 12N HCl and 2 drops of Perhy drol and evap. Dissolve the residue in 0.5 ml 7N HCl, add 0.25 ml 4% Ce(NH<sub>4</sub>)<sub>2</sub>(NO<sub>3</sub>)<sub>6</sub> and 0.5 ml 12N HCl and shake 4 min with 0.5 ml iso-Pr<sub>2</sub>O. Shake the org. phase 3 min with 0.1 ml 0.2% Rhodamine B (RB) in 2.4N HCl and read the absorbance of [SbCl<sub>6</sub>-RB+] at 555 m.mu.. Ext. Ga, Fe, and Tl from the ZnCl<sub>2</sub> soln. (obtained by the dissoln. of Zn) in 3.3N HCl as oxonium complexes with 8 ml iso-Pr<sub>2</sub>O. Reduce Fe to Fe(II) and Tl to Tl(I) and sep. from Ga by shaking th e ether phase with 1 ml 6N HCl and 0.25 ml soln. contg. 4 mg NaHSO<sub>3</sub>. Add to the org. phase 0.5 ml 6N HCl and evap. the ether. Treat the residue with 0.5 ml 6N HCl and 0.1 ml 0.5% Rhodamine B in 6N HCl and ext. [GaCl<sub>4</sub>-RB+] with 0.25 ml o-Cl<sub>2</sub>C<sub>6</sub>H<sub>4</sub>; measure the absorbance of the org. ext. at 565 m.mu. with reference to a blank. Add to the aq. phase after sepn. of Ga 0.25 ml 10% NH<sub>2</sub>OH.HCl, adjust pH with NH<sub>3</sub> to 5 .+-. 1, ext. Fe(II) with 0.5 ml 0.0025M

**bathophenanthroline** in CHCl<sub>3</sub>, and det. the absorbance at 540 m.mu. with reference to a blank. Add to the aq. phase after sepn. of Fe 0.5 ml 12N HCl, oxidize Tl(I) to Tl(III) with Br, evap., dissolve the residue in 1 ml 0.5N HBr, and ext. with 0.5 ml I. Shake the org. phase with 0.1 ml 0.2% Rhodamine B in 2.4N HCl and mea sure the absorbance of [TlBr<sub>4</sub>-RB+] at 555 m.mu. with ref. to a blank. Cu and Pb were detd. in the soln. after copptn. on a Sb carrier as sulfi tes followed by dissoln. To det. Cu adjust the soln. to pH 2 .+-. 0.1 with NH<sub>3</sub>, ext. with 0.002% dithizone (II) in CCl<sub>4</sub>, and read the absorbance at 555 m.mu. with ref. t o a blank. Adjust the pH of the aq. phase after Cu extn. to 10 .+-. 0.2 with NH<sub>3</sub> (the soln. vol. should be 6-6.5 ml), add 0.25 ml 0.65M KCN, ext. with 2 ml II, wash the aq. phase with 0.5 ml CCl<sub>4</sub> and the combined org. phase with 2 ml of a soln. of 0.1M KCN and 0.08M citrate at pH 10, and **measure** the absorbance of the org. phase at 520 m.mu. with ref. to a blank. The method permits the detn. of 10-7% As, Ga, Fe, and Sb and 10-6% Cu, Pb, and Tl.

=> d 119 ibib,kwic 21

L19 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1969:60700 CAPLUS

DOCUMENT NUMBER: 70:60700

TITLE: Extraction of iron with di-(2-ethylhexyl)orthophosphoric acid, and its direct determination with **bathophenanthroline**

AUTHOR(S): Cerrai, Enrico; Ghersini, Giovanni

CORPORATE SOURCE: Lab. CISE, Milan, Italy

SOURCE: Analyst (Cambridge, United Kingdom) (1968), 93(1110), 606-10

CODEN: ANALAO; ISSN: 0003-2654

DOCUMENT TYPE: Journal  
LANGUAGE: English

- TI Extraction of iron with di-(2-ethylhexyl)orthophosphoric acid, and its direct determination with **bathophenanthroline**
- AB Ext. Fe(III) from Cl- media with 0.5M bis(2-ethylhexyl) phosphate (I) in cyclohexane equilibrated with a 2-fold vol. excess of 0.1M HCl. Use a 1:1 phase-vol. ratio to ext. 0.04-6 .gamma. Fe/ml. from 0.1M HCl. If necessary, adjust the acidity of the soln. prior to extn., ensuring that the final Cl- concn. is <3.8M. If Fe(II) is to be detd., add <3 .times. 10-3% H2O2 to the soln. Shake 10-ml. portions of the Fe soln. and I soln. for 10 min. Add 1 ml. of a freshly prepd. 0.05M ascorbic acid soln. in 95% EtOH to a 5-ml. aliquot of the org. soln., mix, then add 1 ml. of a 45:55 EtOH-C5H5N mixt. and 2 ml. of 0.002M **bathophenanthroline** in 95% EtOH. Dil. the soln. to 10 ml. with 95% EtOH and, after 30 min., measure the absorbance at 533 nm. (molar absorptivity is 2.20 .times. 10^4) against a reagent blank. Beer's law is followed for .ltoreq.30 .gamma. total Fe. For 0.2- and 1.4-.gamma. Fe/ml. levels in the initial soln., the av. absorbances were 0.039 and 0.268, resp., with standard deviations of 0.0012 and 0.0014, resp. Interference due to Cu and serious interference due to V(III), Ga, Y, and the heaviest rare earths were observed. By taking precautions to avoid Fe contamination, .gtoreq.0.7 .gamma. Fe/l. can be detd. with +/-0.11 standard deviation. The method was applied to the **detn.** of .apprx.1-28 .gamma. Fe/l. in high-pressure boiler water samples, by using 50:1 to 200:1 phase-vol. ratios in the I extn.
- ST boiler waters Fe detn; iron detn boiler waters;  
**bathophenanthroline** Fe detn; bisethylhexyl phosphate Fe

=> d 119 ibib,kwic 22

L19 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1968:480061 CAPLUS

DOCUMENT NUMBER: 69:80061

TITLE: Methods for iron determination in drinking and industrial water

AUTHOR(S): Eichelsdoerfer, D.; Rosopulo, A.

CORPORATE SOURCE: Tech. Hochsch. Muenchen, Munich, Fed. Rep. Ger.

SOURCE: Vom Wasser (1968), Volume Date 1967, 34, 82-96

CODEN: VJWWAU; ISSN: 0083-6915

DOCUMENT TYPE: Journal

LANGUAGE: German

- AB Existing methods were tested on the same water and evaluated. Reagent used and lowest qual. detection limits in mg./l. were: for Fe2+, Na2S .apprx.1, dimethylglyoxime .apprx.0.8, 2,2'-dipyridyl .apprx.0.05; for Fe3+, K4Fe(CN)6 .apprx.1, KSCN .apprx.0.2. For quant. photometric **detn.** of total Fe, a **measured** amt. of water sample was boiled 15 min. with HCl (d. 1.19) to dissolve pptd. or colloidal Fe, the vessel was washed with hot HCl, and the combined solns. cooled in a **measuring** flask, brought to vol., and aliquot portions used. The colored-complex-forming reagents are given in increasing order of sensitivity (for Fe2+ the reagent is added at the time the sample is taken): HSCH2CO2H, 2,5-HO(HSO3)C6H3CO2H, KSCN, 2,2'-dipyridyl, 1,10-phenanthroline, Na **bathophenanthroline** sulfonate, **bathophenanthroline** (I) in Me2CO, and I with the Fe complex extd. and detd. in the org. phase. The org. matter of waters with strong color must be removed by wet or dry decompn. Excellent results are obtained with emission spectra, since Fe complexes can be extd. with CHCl3 from solns. contg. interfering metals, but practically identical results were obtained on waters from iodine, salt, and sparkling mineral springs by the photometric method which is simple, reliable, and highly sensitive for all the concn. regions in drinking or industrial waters. 17 references.

=> d 119 ibib,kwic 23

L19 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1968:454211 CAPLUS

DOCUMENT NUMBER: 69:54211  
TITLE: Iron determination in peat waters  
AUTHOR(S): Eichelsdoerfer, Dieter; Rosopulo, Anton  
CORPORATE SOURCE: Tech. Hochsch. Muenchen, Munich, Fed. Rep. Ger.  
SOURCE: GWF, das Gas- und Wasserfach (1968), 109(26), 707-9  
CODEN: GAWFAN; ISSN: 0367-3839  
DOCUMENT TYPE: Journal  
LANGUAGE: German

AB This method depends on the formation directly in the test soln. of a colored Fe complex and the detn. of this photometrically due to its high molar absorptivity. Take a **measured vol.** of water (.apprx.100 ml.) with a total Fe content between 5 and 20 .gamma.. Acidify with HCl to a pH <1; boil for 15 min. Add 2 ml. 10% aq. hydroxylammonium chloride soln. (freshly prepd.), cool to room temp., and add 10 ml. **bathophenanthroline** (35 mg. **bathophenanthroline** (4,7-diphenyl-1,10-phenanthroline) dissolved in 50 ml. EtOH and made up to 100 ml. with distd. water). Adjust the pH to as close to 4 as possible by neutralizing with NH3 and adding NaOAc soln. buffered to pH 4. Place in a conical extn. funnel and ext. 3 times with 10 ml. CHCl3. Place the ext. in a 50-ml. volumetric flask, add 10 ml. EtOH and fill to the mark with CHCl3. Place in a 5-cm. cell and measure the absorption photometrically at a wavelength of 533 m.mu. (or use filter S53), against a blank soln. prepd. similarly. Read the Fe content from a calibration curve or calc. by formula. This method is suitable for detg. very low-Fe contents in surface waters contg. org. matter.

=> d 119 ibib,kwic 24

L19 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1960:95091 CAPLUS  
DOCUMENT NUMBER: 54:95091  
ORIGINAL REFERENCE NO.: 54:17986i,17987a-d  
TITLE: Operating experience with the first commercial supercritical-pressure steam-electric generating unit at the Philo plant  
AUTHOR(S): Frankenberg, T. T.; Lloyd, A. G.; Morris, E. B.  
CORPORATE SOURCE: Am. Elec. Power Serv. Corp., New York, NY  
SOURCE: Proceedings of the American Power Conference (1958), 20, 144-60  
CODEN: PAPWA2; ISSN: 0097-2126  
DOCUMENT TYPE: Journal  
LANGUAGE: Unavailable

AB cf. following abstr. The steam generator of this unit was ready before the complete unit, and was washed with alkali, HCl (feedwater system only), and citric acid solns. before use. Details of design and re-design are discussed. In the feedwater dissolved solids have been in the range of 100-200 parts per billion. This is monitored in a continuous cond. recorder, with the sample flowing through a cation-exchange resin column to remove NH3. To keep silica values low it was necessary to demineralize a part of the condensate stream. During startups silica content may be high for several hrs. Sol. Fe in the boiler feedwater probably does not exceed 2 to 4 p.p.b. but the total Fe content may be higher, owing to suspended Fe oxide. This is **detd.** routinely by the color on a Millipore filter disk, after passing a **measured vol.** of water. The **bathophenanthroline** method does not measure the true Fe content when suspended oxide is present. A method for Fe detn. is presented in which a 20-hr. composite is concd. and given a strong acid digestion before analysis. Filters (tubular membrane elements) are used to remove Fe oxides. The Cu content of the feedwater has been generally less than 10 p.p.b. Cu pickup has taken place on the steam side of the heaters. Tests have indicated that 50% or more of the Cu deposits in the steam generator. A large amt. of Cu was removed with citric acid (46 lbs. at one steam-generator cleaning). Normal H evolution values were 0.5 to 1 p.p.b. at the steam-generator inlet, 1 to 2 at the primary superheater outlet, and 3 to 5 at the secondary superheater outlet. Initial operation of the unit during the cleanup phase indicated the need for adequate

filter capacity to avoid fouling of the steam generator during periods of high Fe concn. in the feedwater, such as initial cleanup or return to service after extended outages. Hot restarting procedures are discussed.

=> d 114

L14 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:384745 CAPLUS  
TI Method and device for **determining** the **volume** of a  
sample of a **liquid**  
IN Haelg, Werner; Ingenhoven, Nikolaus; Troesch, Michael  
PA Tecan Trading Ag, Switz.  
SO PCT Int. Appl.  
CODEN: PIXXD2  
DT Patent  
LA German  
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002040161	A1	20020523	WO 2001-CH638	20011029
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2001095360	A5	20020527	AU 2001-95360	20011029
	AU 2001095361	A5	20020527	AU 2001-95361	20011029
	AU 2001095363	A5	20020527	AU 2001-95363	20011029
	EP 1221341	A1	20020710	EP 2001-125832	20011030
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	AU 2002012040	A5	20020527	AU 2002-12040	20011115
	JP 2002228587	A2	20020814	JP 2001-350178	20011115
	EP 1333925	A1	20030813	EP 2001-980114	20011115
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004512951	T2	20040430	JP 2002-542522	20011115
PRAI	CH 2000-2252	A	20001117		
	CH 2000-2281	A	20001123		
	CH 2000-2314	A	20001129		
	WO 2001-CH637	W	20011029		
	WO 2001-CH638	W	20011029		
	WO 2001-CH640	W	20011029		
	WO 2001-CH672	W	20011115		

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 14:41:32 ON 30 SEP 2004)

FILE 'REGISTRY' ENTERED AT 14:41:40 ON 30 SEP 2004

L1 1 S FERROZINE/CN  
L2 0 S CHROMAZUROL/CN  
L3 0 S CHROMAZUROL S/CN

FILE 'CAPLUS' ENTERED AT 14:42:39 ON 30 SEP 2004

L4 6583 S (DETERMIN? OR CALCULAT? OR MEASUR?) (S) (VOLUME) (S) LIQUID  
L5 27754 S MEASUR? (S) ABSORBANCE  
L6 389 S INDICATOR (S) LIGAND  
L7 424 S COMPLEX (P) LIGAND (P) INDICATOR  
L8 0 S L4 AND L5 AND L6

L9 0 S L4 AND L5 AND L7  
L10 1 S L4 AND L6  
L11 0 S L4 AND L7  
L12 114401 S MEASUR? (S) (ABSORBANCE OR ABSORPTION)  
L13 132 S L4 AND L12  
L14 1 S L13 AND L6  
L15 0 S L13 AND L7  
L16 1784 S L1 OR BATHOPHENANTHROLINE OR BATHOCUPROINE OR CHROMAZUROL S  
L17 0 S L16 AND L4  
L18 117636 S (DETERMIN? OR CALCULAT? OR MEASUR?) (S) (VOLUME)  
L19 24 S L18 AND L16